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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,673	09/26/2003	Todd Ames	2005.18	9814
29494	7590	12/13/2005	EXAMINER	
ROBERT H. HAMMER III, P.C. 3125 SPRINGBANK LANE SUITE G CHARLOTTE, NC 28226			VANATTA, AMY B	
			ART UNIT	PAPER NUMBER
			3765	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

THC

<b>Office Action Summary</b>	<b>Application No.</b> 10/672,673	<b>Applicant(s)</b> AMES ET AL.	
	<b>Examiner</b> Amy B. Vanatta	<b>Art Unit</b> 3765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>011504, 092304</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

There is no claim 12. Accordingly, claims 13, 14, and 15 have been renumbered as claims 12, 13, and 14, respectively. They will be referred to below by these new numbers.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5, 7-10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (Japanese Patent Document 60-26537) in view of Moyer et al (US 3,375,559).

JP 60-26537 discloses a method for making an absorbent composite including spreading a crimped tow (by air opening device 14), de-registering the crimped tow (by

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rollers 16a, 16b and 17a, 17b), and shaping the de-registered tow by device 18 which has "a guide to control the width of the tow" (see page 5, lines 29-31). Suzuki et al also disclose an apparatus as claimed including a means (14) for spreading a crimped tow, a means (16a, 16b, 17a, 17b) for deregistering the tow, and a means (18) for shaping the deregistered tow. Regarding the 35 U.S.C. 112, sixth paragraph "means plus function" limitations recited in claim 7, Suzuki's means for spreading (14) is an air banding jet, as is the means for spreading disclosed by applicants. The means for deregistering the tow which is disclosed by Suzuki has the same structure for performing the same function as disclosed by applicant, that is, de-registering rollers (see rollers 16a, 16b, 17a, 17b of Suzuki). The means for shaping the deregistered tow disclosed by Suzuki appears to be the same as or equivalent to applicants' means for shaping, the means for shaping (18) of Suzuki including air jet nozzles and a guide. With further regard to Suzuki, it is disclosed that the shaped tow is led to conveyor 19 to be covered with pulverized pulp 21 (page 5, lines 33-34). It is disclosed that this pulp may include absorbent polymer powder (page 5, lines 34-35), which is a "particulate" as claimed. This particulate (i.e. the powder mixed with the pulp) is distributed onto the shaped tow as in claim 1. Spreader 20 forms a means for distributing the particulate onto the tow, as in claim 7. The distributing spreader 20 of Suzuki appears to be equivalent to the particulate distribution apparatus disclosed as the "means for distributing" of applicants. Regarding claims 5 and 13, the tow is shaped to a substantially rectangular cross section as seen in Figs. 3A-3C.

Suzuki does not disclose a step of shielding the tow, or a means for shielding the tow, as in claims 1 and 7. Moyer discloses a method and apparatus for processing crimped tow, and discloses nested tiers of cylindrical members (see rolls 40) which perform a rubbing action on the yarn to shift the crimps of the filaments thereof from their nested relationship to bulk the yarn (col. 1, lines 15-22). This shifting of the filaments deregisters them, and thus the tiers of rolls 40 are a deregistering device. The rolls 40 are provided in housing 21 (col. 1, lines 14-22 and 68-72; col. 2, lines 66-72). Since the housing completely covers the rolls 40, the housing clearly serves to shield the tow which is being processed by the rolls 40, as is well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a housing for the deregistering rollers of Suzuki, such as disclosed by Moyer, in order to keep the rollers clean. To encase a portion of a processing unit in a housing is well known in the art in order to reduce contamination of the working area and the machine components. By providing a housing around the deregistering rollers of Suzuki, such as shown by Moyer et al, a step of shielding the tow is performed while deregistering, as in claim 1. The housing encases the tow during deregistering, as in claim 2. The housing is a means for shielding the tow having the structure of a cabinet, as in claims 7-10.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ames et al (US 6,253,341) in view of Turner et al (US 4,628,677).

In US 6,253,431, Ames et al disclose a method and apparatus for making an absorbent composite including spreading a crimped tow in a direction perpendicular to the tow's travel by a banding jet 130. A step of deregistering is performed by roller assemblies 40, 60, 70 (see col. 4, lines 21-25 and col. 5, lines 1-4). Ames et al disclose a step of shaping the deregistered tow by means of device 240. A particulate is distributed onto the shaped tow by assembly 120, as claimed. Ames et al also disclose an apparatus as claimed including a means (banding jet 130) for spreading a crimped tow, a means (roller assemblies 40, 60, 70) for deregistering the tow, and a means (240) for shaping the deregistered tow. Regarding the 35 U.S.C. 112, sixth paragraph "means plus function" limitations recited in claim 7, Ames discloses a means for spreading (130) which is an air banding jet, as is the means for spreading disclosed by applicants. The means for deregistering the tow which is disclosed by Ames has the same structure for performing the same function as disclosed by applicant, that is, deregistering rollers (see roller assemblies 40,60,70 of Ames). The means for shaping the deregistered tow (240) disclosed by Ames is the same as the means for shaping disclosed by applicants (see page 11 of applicants' specification). A feeder 120 forms a means for distributing the particulate onto the tow. The tow is shaped to a substantially rectangular cross section (col. 6, lines 56-57) as in claims 5 and 13. A liquid is applied to the tow by liquid additive assembly 80, as in claims 6 and 14.

Ames does not disclose a step of shielding the tow, or a means for shielding the tow, as in claims 1 and 7. Turner discloses a yarn spinning machine and teaches that the machine is enclosed in a housing to prevent contamination of the equipment (col. 4,

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lines 50-64). The housing is a means for encasing the yarn during spinning. The housing includes a means to apply positive air pressure within the housing to prevent the ingress of dust and fly into the machine, which could clog the components (col. 4, lines 60-64). The housing clearly serves to shield the yarn. It would have been obvious to one having ordinary skill in the art at the time the invention was made to encase the deregistering rollers of Ames in a housing having positive pressure supplied thereto, since it is well known to provide a pressurized housing around the working area in a textile machine to reduce contamination, as taught by Turner et al.

By providing such a housing having positive pressure supplied thereto around the deregistering rollers of Ames, a step of shielding the tow is performed while deregistering, as in claim 1. The housing encases the tow during deregistering, as in claim 2 and applies a positive pressure as in claim 3. The housing is a cabinet which is the means for shielding which is disclosed by applicant, as in claims 7-11.

Regarding claims 4 and 12, the pressure provided in the housing of Turner et al is disclosed as 250 pascals above ambient pressure (col. 4, lines 8-9), which appears to be slightly lower than that claimed. Turner recognizes that a low pressure should be used since too great a pressure produces outflow of filtered air which is wasteful and can adversely affect the process. Applicant also uses a low pressure, though the claimed pressure is higher than that disclosed by Turner. Determination of the optimal pressure for the process of Ames modified in view of Turner is within the ordinary skill in the art based on routine experimentation and other parameters of the process such as speed and temperature. It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to supply the positive pressure in the housing of Ames modified in view of Turner in the range of 0.1 to 1.0 psig, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 571-272-4983. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.




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Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Amy B Vanatta  
Primary Examiner  
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